

17, 2.

Methods of applying standards of acoustics in reduction. p. 412

Sov. Acoust. vol. 40, no. 11, Nov. 1955

Relativ

20. Generalized Acoustic LIST vol. 5, no. 10 Oct. 1956

JASIEWICZ, Z., prof. dr inż.; RYS, J., dr inż.

Correlation between tensile strength R_t and elongation a_5 in normalized carbon construction steel. Hutnik P 29 no.4:121-126 Ap '62.

1. Katedra Metalografii i Obrobki Ciepłej, Akademia Gorniczo-Hutnicza, Krakow.

JASIEWICZ, Zygmunt, prof. dr inz.; FRYDRYCH, Hanna, mgr inz.; RYS, Jerzy,
dr inz.

Achievements and difficulties in the production of wires and
cables for cable railways. Hutnik P 30 no.9:304-308 S '63.

RYS, Jerzy

Mechanical properties of iron sheets of old locomotive boilers as determined by flat and ring samples. Przegl kolej mechan 16 [i.e. 15] no.4:92-98 Ap '63.

1. Katedra Metalografii i obróbki Ciepłej, Akademia Gorniczo-Hutnicza, Krakow.

23

Wood as a chemical raw material. Ladislav Rys.
Chem. Listy 32, 376-82(1938). Because the wood
supply of Slovakia is adequate, is being replaced con-
stantly and is able to compete with coal in prices, R. in-
vestigates new uses for which wood could be used and re-
views the recent advances in (1) the manuf. of paper
wood fibers, cellulose, (2) the chem. decompn. of wood
(dry distn., prepn. of sugar feeds) and (3) the prepn. of
rats. from wood.

Frank M. Storch

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

DOLEZAL, Bohuslav, MVDr.; POKORNY, Vladimir, MVDr.; RYS, Milos

Effect of mechanization and automation on meat processing technology. Prum potravin 14 no.5:253-255 My '63.

1. Vyzkumny ustav pro maso, Brno (for Dolezal and Pokorny).
2. Sdruzeni masneho prumyslu, Praha (for Rys).

RYS', N., starshiy nauchnyy sotrudnik.

Effect of salt solutions on the breakdown of brick masonry. Stroi.
mat., izdel. 1 konstr. 2 no. 6:30 Je '56. (MLRA 9:8)

1. ROSSNIIMSa.

(Bricks)

RYS', N.F., inzh.

Particulars of obtaining keramzit from saline clay. Sbor. trud.
ROSNIIMS no.27:102-112 '63. (MIRA 17:1)

RYS, N.F.

Matt's Influence of corrosive waters on the destruction of brick-work. N. F. Rys. *Stroitel. Materialy* 2, No. 6, 30-1 (1956).
Best quality brick was periodically soaked for one hr. in 2% aq. solns. of $MgSO_4 \cdot 7H_2O$, $NaCl$, Na_2S , and water, and dried for 8.5 hrs. in a drying oven. After every 10 cycles drying was continued to the permanent wt. Loss of wt. was held as an index of failure. After 100 cycles, H_2O -treated

bricks lost 0.4-0.6% of their wt.; those soaked with $NaCl$ and Na_2S solns. weighed more, but no peeling off was observed. Treating with $MgSO_4$ increased the wt. of bricks up to 30 cycles without any changes in appearance, but the destruction started with 40 cycles when 5% was lost and resulted in 10.5% of spalling after 100 cycles. J. D. G.

RYS, N. F.

Laboratory control of the quantity of fuel added into a ceramic batch. N. F. Rys. *Sbornik Trudov Respub. M. Neshchinskaya. Tbil. Maslinnykh Stroitel. Material. 1953.*
No. 4, 80-84. *Referat. Zhur., Khim. 1955, No. 850.*—A new and more precise method of controlling the amt. of fuel incorporated in ceramic batches is outlined. M. Hoshch

RYS', N.V., zasluzhennyy vrach RSFSR

Isolated traumatic subcutaneous rupture of the gallbladder.
Khirurgia no.3:75 Mr '54. (MLRA 7:5)

1. Iz khirurgicheskogo otdeleniya (zav. N.V.Rys') Shadrinskoy
gorodskoy bol'nitsy Kurganskoy oblasti (glavnyi vrach T.A. She-
veleva).

(GALLBLADDER, rupture,
*traum.)

(WOUNDS AND INJURIES,
*gallbladder, causing rupt.)

RUC, 1.

"Ductile Cast Iron." . 505. (Hutnicke
Listy. Vol. 7, No. 11, Nov. 1952, Praha.

Vol. 3, No. 3.
SC: Monthly List of East European Accessions, Library of Congress, March 1954, Uncl.

Rys, P.

✓ The Theory of Spheroidal Cast Irons. P. Rys. (Staloznauka, 1956, 3, (4), 101-110). [In Czech]. On the basis of a critical analysis of existing theories, the view that spheroidal graphite is formed from supersaturated austenite is rejected in favour of direct formation from the melt.—P. r.

MG

Df

RYS, P.

Thermal Microscopy, P. Rys, (Problems and Perspectives of Czechoslovak Metallurgy and Foundry, 1956, 142-143). Microscopy at elevated temperatures is described and illustrated with 37 micrographs. Austenite is etched thermally and the development of mosaic structure in supercooled and hypercooled steels is described. Graphite film formation was observed and conditions for its establishment and Widmannstätten structure examined. A microscope made in Czechoslovakia was used.

RG
MS
RYS

RYS, PREMYSL

Category : CZECHOSLOVAKIA/Solid State Physics - Morphology of Crystals. Crystallization E-7

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6696

Author : Rys, Premysl

Inst : Vojenska technika akademie A. Zapotockoho, Brno, Czechoslovakia

Title : Certain Remarks on the Crystallization of Metals

Orig Pub : Slevarenstvi, 1956, 4, No 9, 263-267

Abstract : The fundamental thermodynamic conditions are derived for spontaneous crystallization characterized by the appearance of supercritical nuclei (homogeneous nucleation). The influence of non-metallic inclusions and of the walls of the mold on the hardening of the metals, the nature of the crystallization process at the walls, and the action of various types of non-metallic inclusions are discussed. Certain examples of the action of the inclusions on the structure of the alloys are given. In conclusion, methods are mentioned with which it is possible to obtain a fine crystallization structure of metals and alloys.

Card : 1/1

Rys Premysl

CZECHOSLOVAKIA/Solid State Physics - Phase Transitions in Solids E-6

Abs Jour : Ref Zhur -- Fizika, No 5, 1958, No 10606

Author : Rys Premysl, Bezdek Ladislav, Ciba Karel, Ruzicka Dalibor,
Skarek Jiri

Inst : Not Given

Title : Microscopic Investigation of Metals at High Temperatures and
at Temperatures Below Zero

Orig Pub : Rozpr. CSAV, 1957, TW67, No 3, 67x., 11

Abstract : A detailed description of a microscope for the study of structures at higher temperatures and at temperature below zero. The authors consider the problem of the effect of various physical and chemical factors on the structure and analyze in detail the theory of thermal etching of metals. A survey of work of the authors on the microscopy of steel, cast iron, copper and bronze at various temperatures is included. Bibliography, 37 titles.

Card : 1/1

CZECHOSLOVAKIA/Solid State Physics - Phase Transitions in Solids E-6

Abs Jour : Ref Zhur - Fizika, No 11, 1958, No 25228

Author : Rys Frantisek, Bozdek Ladislav, Ciha Karel, Ruzicka Dalibor,
Skarek Jiri

Inst : Not Given

Title : Investigation of Metallic Structures at High and Low Temperatures.

Orig Pub : Acta techn. (Ceskosl.), 1958, 3, No 1, 58-83

Abstract : A description is given of the apparatus and of a procedure from metallographic investigation of metals and alloys at high ($\sim 600^{\circ}\text{C}$) and low (-196°C) temperatures. The high-temperature microscope makes it possible to carry out direct observation of the specimen at high temperatures in vacuum or in a protective atmosphere. Heating of specimens is carried out by passage of electric current, or else by heat transfer from the furnace (eight specimens can be heated simultaneously). In the former case the rate of heating is $\sim 1500^{\circ}/\text{minute}$, in the second it is $\sim 300^{\circ}/\text{minute}$; with an accuracy of $\pm 0.5\%$.

Card : 1/2

RYS P

CZECHOSLOVAKIA/Solid State Physics - Phase Transitions in Solids E-6

Abs Jour : Ref Zhur - Fizika, No 12, 1958, No 27496

Author : Rys Premysl, Bozdek Ladislav, Ciha Karel, Ruzicka Dalibor,
Skarek Jiri

Inst : Not Given

Title : Investigation of the Structure of Metals at High and Low
Temperatures. 3-4.

Orig Pub : Acta techn. (Ceskosl.), 1958, 3, No 2, 85-120

Abstract : Continuation of a previous work (Referat Zhur Fizika, 1958,
No 11, 25228). In this part a procedure is discussed for
the manufacture of specimens with thermal etching and results
of an investigation at high temperatures. A large number
of microphotographs are included.

Card : 1/1

RYS, P.; ~~KLESNIL, M.~~

TECHNOLOGY

periodicals: HUTNICKE LISTY Vol. 13, no. 12, Dec. 1958

KLESNIL, M.; RYS, P. Initial stages of fatigue in carbon steels, p. 1116

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 5
May 1959, Unclass.

RYS, P.; PRIEVL, J.

Proceedings in committees in the 25th International Foundry Congress. p. 25.

SLEVARNSTVI. Praha, Czechoslovakia, Vol. 7, no. 1, Jan. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, no. 7, July 1959
uncla.

25192

18-7110

Z/034/60/000/011/005/009
E073/E335

AUTHORS: Klesnil, Mirko and Ryš, Přemysl

TITLE: Precipitation Hardening of Low-carbon Steels

PERIODICAL: Hutnické listy, 1960, No. 11, pp. 867 - 876

TEXT: For studying the structural changes in saturated alpha-iron, a low-carbon steel was chosen which contained 0.05% C and 0.0042% N. First, the steel was annealed at 1 000 °C for one hour and then it was allowed to cool slowly in the furnace for a duration of 24 hours. As a result of this a suitable grain size of 0.01 mm was obtained. The specimens were in the shape of 4 x 15 x 40 mm plates. These were annealed for one hour at 700 °C and then rapidly cooled in water at 20 °C. Following that, they were electrolytically polished in an electrolyte containing 225 ml. CH₃COOH, 5 ml. H₂O, 20 ml. HClO₄ and were etched for 30 sec by means of a 2% nital solution. Hardening was effected in the temperature range 23 - 128 °C; the specimens were heated in a thermostat in which the temperature was maintained with an accuracy of ± 0.05 °C. The hardness

Card 1/3

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E073/E335

Precipitation Hardening of Low-carbon Steels

was measured by the Vickers method and as the resulting values the arithmetic mean of 10 measurements was taken and the mean square error calculated, which varied between ± 0.5 to 2 H units. The structural changes were studied on a Zeiss Neophot microscope and by means of a table electron microscope, Tesla BS-242, using two-stage colloidal carbon replicas which were shaded by means of gold and palladium. On the basis of the results, which are described in considerable detail, the following conclusions are arrived at: hardening of low-carbon steels with a small content of nitrogen proceeds by formation of the carbide phase. The activation energy of the precipitation process has been determined and it was found that the value is very close to the activation energy of diffusion of carbon in alpha-iron, which indicates that carbon diffusion controls the progress of hardening of the investigated steel. The electron microscope enables following the changes in the structure of the solid solution of alpha-iron as a function of time and of the hardening conditions. Determination of the beginning of the precipitation itself, i.e. of the separation of non-coherent formations, is very difficult.

Card 2/5

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E073/E335

Precipitation Hardening of Low-carbon Steels

Pronounced precipitates were determined only on the descending sections of the hardness curves; the ascending part and the peak part of the curves correspond to the pre-precipitation state of the nonhomogeneous solid solution or of coherent precipitates. After cold-working and combined hardening the hardness values were higher and the hardness and the structure were considerably more stable than in the case of ordinary hardening at a given elevated temperature and of hardening unworked (undeformed) steel. Both these phenomena are attributed to the considerable nucleation ability of the solid alpha-solution. There are 16 figures and 18 references: 3 international, 3 German, 9 English and 3 Czech. X

ASSOCIATION: Laboratoř pro studium vlastností kovů ČSAV, Brno
(Laboratory for the Study of the Properties of
Metals, ČSAV, Brno)

SUBMITTED: September 20, 1960

Card 3/3

24146

18.8260 also 2807

Z/034/61/000/008/003/005
E073/E535

AUTHORS: Klesnil, Mirko, Docent Engineer Candidate of Science
and Rys, Přemysl, Docent Doctor Engineer Doctor of
Science

TITLE: Precipitation in low carbon steel during cyclic
loading

PERIODICAL: Hutnické listy, 1961, No.8, pp.565-572

TEXT: Published results of P. Lukáš (Ref.11: Symposium on
Fatigue of Metals, Prague, 1960), N. Thompson and N.J. Wadsworth
(Ref.13: Advances Phys. VII, 1958, p.72) and others indicate that
during cyclic loading the range of diffusion of interstitial atoms
increases considerably in Fe-C alloys. The specific fatigue
characteristics of these alloys prove that diffusion of inter-
stitial atoms is a process which controls the formation and develop-
ment of fatigue caused breaks in the cohesion of the ferrite.
The authors carried out experiments on two types of steel: a low
carbon steel containing 0.05% C and 0.0042% N and the steel
ČSN 12010 [Abstractor's Note: composition of this steel -
0.06 to 0.13% C, max 0.60% Mn, max 0.35% Si, max 0.04% P,

Card 1/9

24146

Precipitation of low carbon ...

Z/034/61/000/008/003/005
E073/ 5

max 0.04% S, max 0.07% P + S]. The low carbon steel was first annealed at 1000°C for one hour and then slowly cooled in the furnace for a period of 24 hours. By this treatment an almost equilibrium state was achieved with a suitable grain size (about 0.01 mm). From this material test specimens were made, Fig.1. Some of the specimens were left in the initial state and some were annealed at 700°C for one hour and then rapidly quenched in water at 20°C. All the specimens were ground and electrolytically polished prior to the tests. The surface zone, which was plastically deformed during machining and grinding, was removed by polishing off electrolytically a 50 μ thick layer. The specimens were then subjected to alternate bending at a frequency of 400/min on a test machine designed by the authors. Quenching of each specimen from a temperature of 700°C into water of 20°C was carried out in each case immediately prior to the mechanical tests. The plotted Wöhler curves are reproduced in Fig.2 for the specimens in the annealed (curve 1) and the quenched (curve 2) states. The specimens from the steel ČSN 12010 were first normalized (grain size about 0.02 mm) and then subjected to the

Card 2/9

241146

Precipitation in low carbon ...

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E073/E535

same machining and heat treatment as the low carbon steel specimens. Following that, they were subjected to alternate bending at a frequency of 1470/min on a Schenck-WEBI machine. The Wöhler curves for the steel in the annealed state (curve 1) and in the quenched state (curve 2) are plotted in Fig.4. Structural changes caused by the cyclic stresses and additional annealing were investigated on an optical microscope and on an electron microscope. In the latter, two-stage colloid-carbon replicas were used which were shaded with gold and paladium. For additional hardening after loading the specimens were heated in a thermostat where the temperature was maintained with an accuracy of $\pm 0.05^{\circ}\text{C}$. For the hardness values, the arithmetic average of ten measurements was taken and for this average the mean square error was calculated. For the macrohardness it varied between ± 0.5 and $2 H_V$; for the microhardness it varied between $+1$ and $3.5 H_V$. The dependence of the hardness H_V on time (min) on quenched specimens of the steel with 0.05% C exposed to the temperatures 23, 97 and 128°C is characteristic for the precipitation process (Fig.5). On cyclic loading a considerable increase in hardness

Card 3/9

24146

Precipitation in low carbon ...

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E073/E535

of the ferrite grains affected by alternate plastic deformation was observed after a relatively short time. Fig.7 shows the microhardness of the deformed grains of the 0.05% C steel water quenched from 700°C as a function of the number of cycles for a stress amplitude of $\sigma_a = 27.8 \text{ kp/mm}^2$. Curves 1 and 1a represent the microhardness of grains subjected to alternate plastic deformation. The curves 2 and 2a represent the microhardness of undeformed grains. Curve 3 is the microhardness achieved by direct hardening at 97°C (righthand plot - time in hours). A similar increase in hardness was observed for $\sigma_a = \pm 30.0 \text{ kp/mm}^2$. The results indicate that the hardness increases the more the higher the stress amplitude. After fracture, all the specimens used for obtaining the Wohler curves were subjected to hardness tests. It was found that with decreasing stress amplitude the hardness values of the loaded and non-loaded sections get closer which means that the intensity of precipitation hardening decreases with decreasing stress amplitude. The structure of the slip bands was studied on specimens loaded with $\sigma_a = 31.5 \text{ kp/mm}^2$, i.e. 3.28% above the fatigue limit. It was found that low frequency cyclic loading of

Card 4/9

Precipitation in low carbon ...

21116
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E073/E535

a saturated solid solution of α -iron brings about precipitation decomposition and formation of a carbide phase in the slip bands even without any increase in the temperature. The precipitation results in a pronounced increase of the fatigue limit as compared to annealed steel which is almost in the equilibrium state. Similarly to precipitation of carbides during annealing at 97 and 128°C, carbides form on the ascending branch of the hardness curve which approaches asymptotically the limit value. The increase in hardness is most probably due to precipitation hardening in the slip bands. The increase in hardness caused by additional annealing at 97 and 128°C is due mainly to the undeformed matrix. The hardness curves and the morphological appearance of the structure correspond to combined hardening. The fact that the character of the precipitation decomposition of the saturated α -solid solution during static and during cyclic stresses differs indicates specific properties of the structure of permanent slip bands, which form during alternating strain in ferrite grains, which are the nuclei for fatigue breaks in the cohesion. There are 17 figures and 21 references: 5 Soviet-bloc and 16 non-Soviet-bloc. The four latest English-language references read as follows:
Card 5/9

241146

Precipitation in low carbon ...

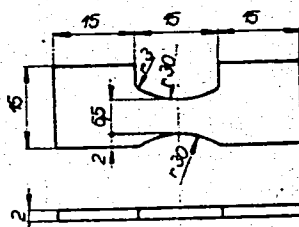
Z/034/61/000/008/003/005
E073/E535

H.A.Lipsitt and G.T.Horne, ASTM 57/1957), p.587; J.C.Levy and G.M.Sinclair, ASTM 55(1955),p.866; N.Thompson and N.J.Wadsworth, Advances Phys. VII (1958) p.72; P.J.E.Forsyth, Proc.Roy.Soc. A. 242 (1957), p.198.

ASSOCIATION: Laboratoř pro studium vlastností kovů ČSAV, Brno
(Laboratory for the Study of the Properties of Metals,
ČSAV, Brno)

SUBMITTED: February 8, 1961

Fig.1



Card 6/9

RYS, P.; KLESNIL, M.; CERNOHORSKY, M.; HABROVEC, F.

Interpretation of the results of the study of carbon steel
extraction replicas. Hut listy 19 no.5:349-358 My '64

1. Institute of Metal Properties, Czechoslovak Academy of
Sciences, Brno.

ACC NR: AP7003629

SOURCE CODE: CZ/0065/66/000/006/0505/0518

AUTHOR: Habrovec, Frantisek; Kounicky, Jan; Rys, Premysl; Skarek, Jiri

ORG: Institute of Metal Properties, ^{Beno}CSAV (Ustav vlastnosti kovu CSAV)

TITLE: Nature of the refining of Fe-Ni-C alloy martensite by repeated austenitizing

SOURCE: Kovove materialy, no. 6, 1966, 505-518

TOPIC TAGS: ~~high~~ nickel steel, steel mechanical proeprty, steel heat treatment, martensite, austenitic steel, tensile strength, yield stress, elongation

ABSTRACT: A series of experiments has been performed to determine the effect of repeated austenitizing with rapid heating on the mechanical properties and the morphology of martensite of a nickel steel (0.42% carbon and 24.5% nickel; M_s temperature—36°C). Steel specimens 1.7 mm thick, 3.4 mm wide, and 80 mm long were austenitized at 1050°C for 30 min, quenched in liquid nitrogen, reheated by passing electric current for various periods of time (to reach a certain temperature which, however, was not measured directly), water quenched and refrigerated in liquid nitrogen for 1.5 hr. The dependence of mechanical properties on the power consumed for reheating (i.e., the austenitizing temperature) was found to follow a complex pattern (see Fig. 1). The best combination of properties, a tensile strength of almost 200 kp/mm², a yield strength of about 160 kg/mm², a yield strength of about 160 kg/mm² and an elongation of about 9%, was obtained at a power consumption of 1000 w. The structure of the alloy treated under these conditions consisted mainly of a fine acicular martensite. With increasing power consumption, the acicular martensite

Card 1/3

UDC: none

ACC NR: AP7003629

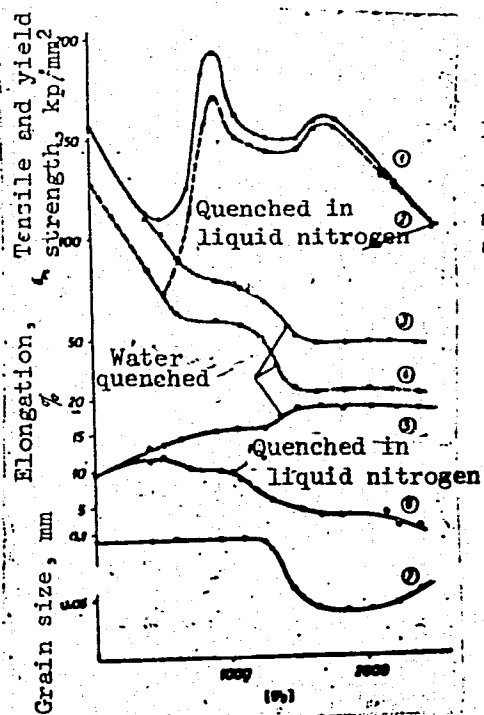


Fig. 1. Dependence of tensile strength (1, 3), yield strength (2, 4), elongation (5, 6) and grain size of the nickel steel on the power consumption for re-austenitizing

Card 2/3

ACC NR: AP7003629

is gradually replaced by lamellar martensite, which has lower strength and ductility (second maximum on curve 1). Orig. art. has: 14 figures.

SUB CODE: 11, 13/ SUBM DATE: 17May66/ ORIG REF: 008/ OTH REF: 010/

Card 3/3

L 45421-66 T/EWP(t)/ETI IJP(c) GG/JD
ACC NR: AP6026376 (N) SOURCE CODE: GE/0030/66/015/001/0071/0082

AUTHOR: Lukas, P.; Klesnil, M.; Krejci, J.; Rys, P.

ORG: Institute of Metallurgy, Czechoslovak Academy of Sciences, Brno

TITLE: Substructure of persistent slip bands in cyclically deformed copper

SOURCE: Physica status solidi, v. 15, no. 1, 1966, 71-82

TOPIC TAGS: deformed copper, polycrystalline copper, dislocation distribution, dislocation density, surface extrusion, slip, slip band

ABSTRACT: The dislocation distribution on the surface layer of cyclically deformed specimens of polycrystalline copper is studied by means of transmission electron microscopy of thin foils, both parallel and nonparallel to the surface. The distribution within the surface layer and near the persistent slip bands is found to differ considerably from that inside the specimens. The persistent slip bands consist of zones of alternately high and low dislocation density. The zones of high density are linked together at a particular depth below the surface. The zones of

Card 1/2

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ACC NR: AP6026376

low density are assumed to serve as "channels" in which the motion of dislocations emitted from Frank-Read sources is relatively free. The escape of these dislocations from the free surface results in surface extrusions. Orig. art. has: 10 figures. [Authors' abstract] [KS]

SUB CODE: 20, 11/ SUBM DATE: 22Jan66/ ORIG REF: 002/ OTH REF: 013/

hs

Card

2/2

SENTEK, W.; RYS, R., doc. dr.; BACZKOWSKA, H.

Digestibility of the nutritive compounds of standard feed mixture for broilers and effect of some additions on the nitrogen balance. Zesz probl post nauk roln no.54:31-36 '64.

1. Department of Animal Feeding of the Institute of Zootechnics, Krakow. Head of Department: Dr.Rys.

RYS. R., 1964.

"Study of a new method for calculation of exterior daylighting" by [inz. eng.] Richard Aitken; [inz.] Stefan Gindrova. Reviewed by R. Rys. Stav. čas. 12 no. 8: 507-509.

"Multiplate constructions prestressed by a forced deformation of redundant bonds" by [inz. Sc.] M. Jozef Tomasko. Reviewed by R. Rys. Ibid.: 507-508.

"Effect of the striking force in determining the strength of concrete by an adjusted Poldi hammer" by [inz. Sc.] Jiri Krehav, [inz.] Vratislav Steiner. Reviewed by R. Rys. Ibid.: 508.

"Use of domestic and foreign epoxy resins for spare photoelastometry" by [vysokomany fyzik-chemik] Eugen Kusera. Reviewed by R. Rys. Ibid.: 508.

RTS R.
POLAND / Farm Animals. Small Horned Stock.

Q-2

Abs Jour: Ref Zhur-Biol., No 23, 1958, 105695.

Author : ~~Rys, R.~~, Gorski, L., Styczynski, H.

Inst : Not given.

Title : Studies on the Formation of Ammonia in the
Rumen of Sheep Maintained on Different Rations.

Orig Pub: Acta Biochim. polon., 1957, 4, No 3, 147-164.

Abstract: The ammonia content in the rumen of sheep fed succulent green rations supplemented with urca is higher than in the rumens of sheep which are given rations composed of hay, corn and oats. When sheep are fed green rations, ammonia passes from the rumen into the blood. If the ammonia content in the rumen is high, a high content of ammonia and urca in the blood is also observed.

Card 1/1

BY: P. : MANAK, K.

Study of aluminum pistons for internal combustion engines. p. 289

STAVARENSTVI (Ministerstvo strojirenstvi a Ministerstvo hutniho prumyslu
a rudnych dolu), Vol. 4, No. 10, Oct. 1956

Praha, Czechoslovakia

SOURCE: East European List (EEAL) Library of
Congress, Vol. 6, No. 1, January 1957

RYS, R.; STYCZYNSKI, H.; WCISLO, H.

Effect of certain yeast cultures on lowering of ammonium nitrogen
in rumen contents. Acta physiol.polon.11 no.5/6:876-878 '60.

1. Z Pracowni Biochemicznej Instytutu Zootechniki, Kierownik:
prof. dr Z.Ewy.

(YEASTS)

(STOMACH physiol)

(NITROGEN)

RYS, R.

MD Modification of the McFarlane colorimetric method for the determination of the copper content in blood. Rajmund Ryba. *Roczniki Nauk Rolniczych* 69, Ser. B, No. 2, 301-2 (1956).—A modification of the McFarlane colorimetric method (C.A. 27, 46) for the detn. of Cu in blood, is presented which involves the use of 70% EtOH soln. instead of water for dissolving the color-forming reagent Na diethyldithiocarbamate (I) and EtOH instead of AmOH as solvent for the Cu salt formed with the reagent. Procedure: 10 ml. blood is wet-digested in a Kjeldahl flask with 10 ml. concd. H₂SO₄, 5 ml. concd. HNO₃, and 4 ml. 60% HClO₄. After evapn. of the liquid phase the residue is dissolved in 3 ml. 5% HCl by warming, and chilled. Four ml. of satd. Na pyrophosphate, 3 ml. satd. NH₄OH, and 14 ml. EtOH are added, the mixt. is thoroughly mixed, and then treated with 1 ml. of 0.5% I in 70% alc. The colored mixt. obtained is then filtered and the filtrate taken for the colorimetric reading in a photoelec. colorimeter with blue filters and a 20-mm. cell. A concn. of 0.1 γ Cu/ml. blood can be detd. by this method within an error not larger than $\pm 5\%$. E. Wierbicki

715, T.

3
Zolary

✓ Colorimetric, method for determination of 2-phenyl-1,3-indandione. / M. Eckstein and R. Rys. *Zeszyty Problemowe Nauki Polskiej* 9, 77-9 (1958). A colorimetric, qual. method was developed for detn. of 2-phenyl-1,3-indandione (I), based on the formation of orange to dark-red salts with K, Na, and NH₄; the color intensity is dependent on salt concn. A photocolormeter was used with a blue filter of max. transparency $\lambda = 425 \text{ m}\mu$. In concn. 25-40 mg./l. the error does not exceed 0.2%. Extinction coeff. of I dissolved in 0.1M NaOH in concn. 2-50 mg./l. = 76.9.
K. Bojanowicz

RB

JJ

RYS, R.; GORSKI, L.; STYCZYNSKI, H.

Ammonia formation in the rumen of sheep fed with various diets.
Acta biochim. polon 4 no.3:147-164 1957.

1. Z Instytutu Zootechniki w Krakowie Kierownik Zakładu: prof. dr Z. Rys.
(STOMACH, physiol.
ammonia form. & nitrogen balance in rumen of sheep fed
with various diets (Pol))
(AMMONIA, metab.
rumen of sheep, form. & nitrogen balance in sheep fed with
various diets (Pol))

Rys, R.
mb/ Copper and molybdenum metabolism in animals. R. Rys and
B. Lazarska (*Roczn. Nauk rol.*, 1955, 70, B, 1-5).—The effects of
feeding Cu and Mo on the amounts of these elements in the blood are
examined. A. G. POLLARD. *2*

RYS, R.
Cystine content in wool of sheep bred in Poland. R. Rys (*Roczn. Nauk Rol.*, 1954, 83, B, 67-80).—The cystine content of wool varies with the breed, being highest in the best wool, and lowest in the wool of wild sheep.
P. S. ARUP.

RYS, R.

POLAND

"Eine Studie über die elektrolytische Gewinnung des Strychnins aus Samen Strychni," by Von J. Deren und R. Rys. Acta Polon, pharmac. 12, Heft 1,33-38 (1955).

SOURCE: Pharmazeutische Zentralhalle (für Deutschland), May 1956, Unclassified.

RYS, R.

Journal of the Science
of Food and Agriculture
March 1954
Foods

✓ Comparison of methods for determining the essential oils content of garlic. R. Rys (*Prace Kom. Nauk. farm. polsk. Akad.*, 1952, 4, 95-122).—Physical and chemical properties of garlic oils and methods for their determination, viz., gravimetric, bromometric, volumetric, S no. [expressed in % of diallyl disulphide (I)], and Ag no. (converted into % of I) are discussed. The bromometric method, which was found to be the most accurate, consists in adding to 25 g. of the distillate from garlic pulp, 0.5 g. of KBr and 10 ml. of 0.1N-KBrO₃, and then 2 ml. of conc. H₂SO₄. After shaking the mixture for 15 min., 1 g. of KI is added and, after a further 5 min., titration is carried out with 0.1N-Na₂S₂O₃ in presence of starch paste. (1 mol. of I takes up 6 atoms of Br.) Results obtained by this method show fairly accurately the oil content in the distillate, but do not indicate the true essential oil content in the garlic clove. The S no. of *Allium ursinum* and of certain garlic prep. are given, and it is concluded that the most valuable pharmaceutical form of garlic is Tinctura allii. (14 references.) A. STOFFER

KYS, R.

Comparative studies of methods used in the analysis of
oils from *Allium sativum*. R. KYS. *Polska Akad. Umie-*
slowosci Prace Komisji Nauk Farm. *Disertationes Pharm.*
4, 65-122 (1952).—The bromometric method of detn. has
been found to be the most accurate. 14 references.
Edward A. Ackermann

R. J. G.

RYB, R. ; GORSKI, L ; STYCZYNSKI, H.

Research on the appearance of ammonia in the rumen of sheep fed with various diets.

P. 147. (ACTA BIOCHIMICA POLONICA) (Warszawa, Poland) Vol. 4, no. 2, 1957

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

RYS, R.

~~DEREN~~, J.; RYS, R.

Investigation on electrodialytic isolation of strychnine from
Strychnos seeds. Acta Poloniae pharm. 12 no.1:33-38 1955.

1. Z Instytutu Zootechniki. Centralne laboratorium, Krakow.
(STRYCHNINE, determination,
electrodialytic isolation from nux vomica)

R. Y. S. R.

Colorimetric method for quantitative determination of 2-phenyl-1,3-indanedione. Marian Eckstein and Rajmund Rys (Med. Acad., Kraków, Poland). *Diagnostica Pharm.* 8, 19-22(1958)(English summary).—Sols. of Na 2-phenyl-1,3-indanedione in 0.1N NaOH absorb at 460 mμ and obey Beer's law in the range 2-50 mg./l.
Alina S. Szeresniak

RYS, Rajmund, doc. dr; SOKOL, Joanna

Studies on some biochemical indexes of protein deficiency in sheep. Zesz probl post nauk roln no.41:35-41 '63.

Studies on the use of ammoniated apple pulp in feeding sheep. Ibid.:115-120

1. Pracownia Biochemiczna, Instytut Zootechniki, Krakow.
Kierownik, doc. dr R. Rys i Katedra Zywienia Zwierzat, Wyzsza Szkola Rolnicza, Krakow Kierownik, doc. dr S. Trela.

RYS, Rajmund

Role of vitamin E in feeding domestic animals. Postepy nauk roln
9 no.6:55-70 N-D '62.

Pr. Rys

795. Determination of lead by Vertmann and Rader's method.
W. Hubicki and R. Rys. (*Ann. Univ. M. Curie-Skłodowska*, 1947, 2 (44), 55-68).—The method (A., 1918, ii, 132), involving pptn. of Pb as $Pb_3(PO_4)_2$, gives good results when <25 c.c. of 0.1N. $(NH_4)_2HPO_4$ and 2 c.c. of conc. aq. NH_3 are added per 0.1 g. of Pb in the aq. $Pb(NO_3)_2$ at 70°. The ppt. is collected in a glass filter (Jena 1 G4), washed with water at room temp., and dried at 130° to const. wt. When extra NH_3 is not added the ppt. also contains $PbHPO_4$. Substitution of Na_2HPO_4 or $Na_2I'O_4$ for $(NH_4)_2HPO_4$ is not permissible, as the results obtained are > theoretical, owing to adsorption or occlusion of reagents by the ppt.
R. Tauson.

RYS, R. (Krakow)

Studies on hypocupremia in cattle in certain regions of Poland.
Rocz nauk roln wet 70 no.1/4:130-132 '60. (EEAI 10:9)

APPROVED FOR RELEASE: 06/20/2000 (cattle) (copper) CIA-RDP86-00513R001446430003-6"

CA

7

Determination of lead by the Vortmann and Bader method. Włodzimierz Hubicki and Raymond Rys. *Ann. Univ. Mariae Curie-Skłodowska Lublin-Polonia*, Sect. AA, 2, No. 4, 65-68(1947)(English summary).— The use of tartaric acid in detg. Pb as phosphate (C.A. 12, 1742) is discarded. To 10 cc. of the hot soln. of Pb (NO₃)₂, add at least 25 cc. of 0.1 N soln. of (NH₄)₂HPO₄ and 2 cc. of aq. NH₃ for each 0.1 g. Pb. Filter the cold soln. through a glass-filtering crucible and wash the ppt. with cold water. Dry at 130° and weigh. B. C. A.

ASH-31A METALLURGICAL LITERATURE CLASSIFICATION

REGION SYMBOLS

SYMBOLS FOR ONLY ONE

SYMBOLS

REGION SYMBOLS

SYMBOLS FOR ONLY ONE

RYS, V.

"Books and Periodicals", P. 8. (TECHNICKÉ NOVINY, Vol. 2, No. 15,
Aug. 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), IC, Vol. 4,
No. 1, Jan. 1955, Uncl.

CA

Some new methods in the pulp and paper industry.
Vladislav Rya. *Przeglad Papier* 3, 141-18 (1947). A re-
view. T. R. Zenger

1951

5
1 52101-65 EFF(c)/EAT(m)/EWP(j)/T Pc-L/Pr-L RM

ACCESSION NR: AP5015271

UR/0286/65/000/009/0051/0051

AUTHORS: Arkin, Ye.-S. A.; Chernyy, V. Ya.; Vnukovskiy, Ye. T.; Sorokin, N. A.;
Kuvaldin, A. I.; Saryayeva, E. G.; Rysakov, G. V.; Vasilevskiy, P. F.; Stolypin, A.
B.; Pautov, A. V.

TITLE: A turbomolecular high-vacuum pump. Class 27, No. 170609

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 51

TOPIC TAGS: vacuum pump, turbomolecular vacuum pump

ABSTRACT: This Author Certificate presents a turbomolecular vacuum pump with a 2-stream rotor and an electric drive mounted in the fore-vacuum chamber (see Fig. 1 on the Enclosure). To increase its reliability, efficiency, and the power coefficient, the electric drive consists of two auxiliary high-frequency electric motors of equal power, mounted on the shaft brackets. These motors may be switched in to work together in accelerating the shaft up to its full rpm in a desired period of time, whereupon one of them is disconnected. To strengthen the insulation and to diminish the gas separation, the winding and the core of the electric motor stators are coated with an epoxy resin with a filler of low vapor tension. To diminish the vibrations and to increase the reliability of bearing supports, the latter are

Card 1/3

RYSAKOV, I.

Under the control of trade unions. Okhr. truda i sots. strakh.
4 no. 2:5-7 P 61. (MIRA 14:2)
(Industrial hygiene--Study and teaching)

RYSAKOV, I., inzh.

Experience of the best should be accessible to all enterprises.
Okhr.truda i sots.strakh. 3 no.3:41 Mr '60. (MIRA 13:7)
(Moscow Province--Industrial safety)

RYSAKOV, I.

Let's reorganize industrial hygiene on a scientific basis.
Okhr.truda i sots. strakh. no.5:28-30 My '59.

(MIRA 12:9)

(Industrial hygiene)

BELORUSETS, B.M.; SHTOL'DER, L.V., inzh., retsenzent; RYSAKOV,
I.M., retsenzent; BROMLEY, M.F., kand. tekhn. nauk, red.

[Labor safety in the machinery industry] Bezopasnost' truda
v mashinostroenii. Moskva, Mashgiz, 1963. 194 p.

(MIRA 18:3)

VOLKOV, Ye.V., inzh.; RYSAKOV, N.F., dotsent; SHALAYEV, N.B., inzh.

Using cyclone-furnaces with liquid slag removal for combustion of
milled peat. Izv. vyss. ucheb. zav.; energ. 2 no.2:79-86 P '59.
(MIRA 12:7)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova. Predstavlena
kafedroy promteploenergetiki.
(Furnaces) (Peat)

RYSKOV, Ivan Mikhaylovich; DENISOVA, I.S., redaktor; KIRSANOVA, N.A.,
tekhnicheskiiy redaktor

[Organization of safety measures in industry] Organizatsiia bez-
opasnoi raboty na proizvodstvennom uchastke. [Moskva] Izd-vo VTsSPS
Profizdat, 1956. 45 p. (MLRA 9:10)
(Industrial safety)

ROGOV, S.P.; RYSAKOV, M.B.; FERSHT, I.Ya.

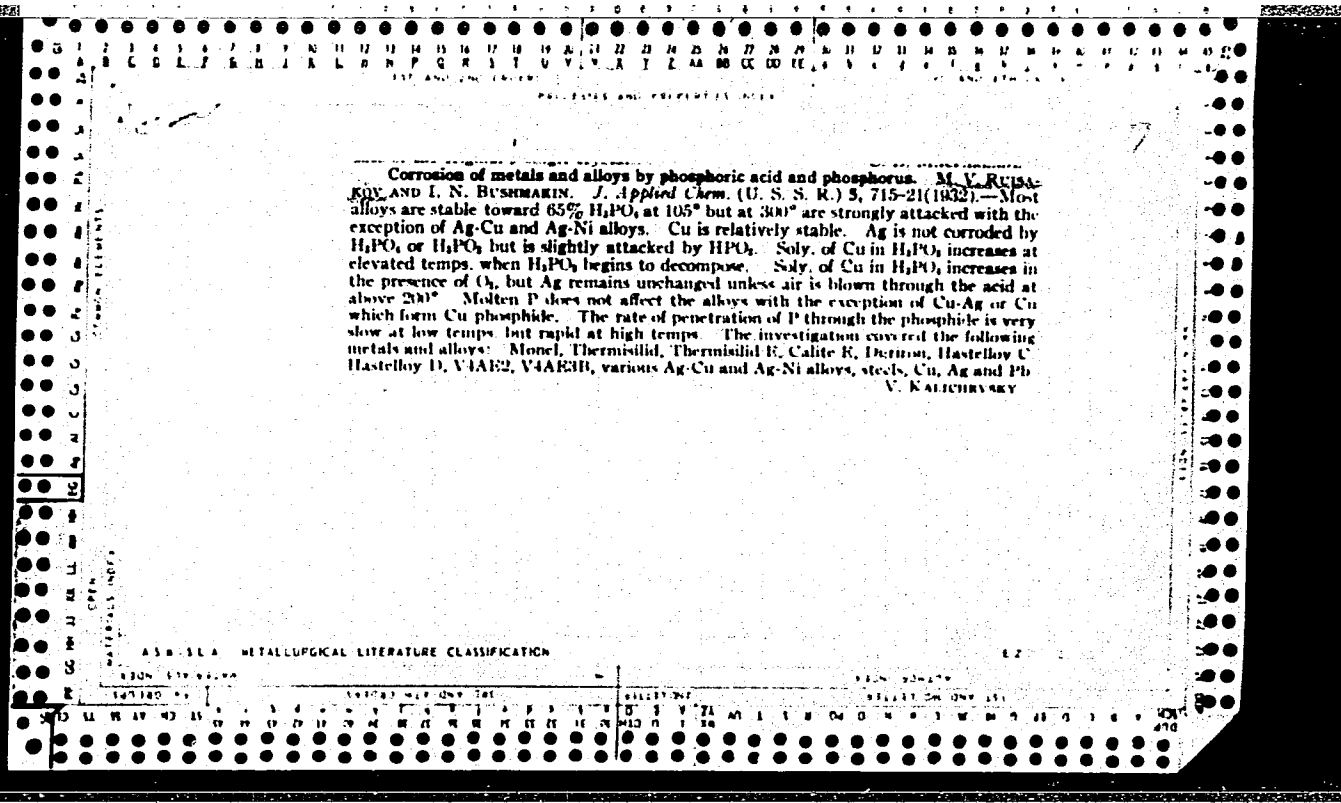
Hydrogenant catalysts regenerated by hydrogen. Khim.i tekhn.
topl.i masel 3 no.10:29-33 . 0 '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftyanoy
promyshlennosti.

(Catalysts)

(Hydrogen)

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
COMMON ELEMENTS																										COMMON ELEMENTS																									
<p style="text-align: center;">PROCESSES AND PROPERTIES INDEX</p> <p style="text-align: center;">18</p> <p style="text-align: center;">Purification of hydrogen containing phosphine under pressure. I. N. BUSHMAKIN AND M. V. RUISAKOV. <i>J. Applied Chem.</i> (U.S.S.R.) 5, 705-14(1932).—H₂, obtained by oxidizing P with H₂O at elevated temps. and pressures, can be purified from PH₃ without releasing the pressure by oxidizing PH₃ with steam at 300° in the presence of Cu phosphide. Three vols. of steam is required per vol. of PH₃. Metallic Cu does not give complete purification. V. KALICHEVSKY</p>																																																			
<p style="text-align: center;">ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p style="text-align: center;">COMMON ELEMENTS</p>																										<p style="text-align: center;">COMMON ELEMENTS</p>																									



Oxidation of red phosphorus at elevated temperatures and pressures. I. N. Bushmakina, M. V. Kuisakov and A. V. Frost. *J. Applied Chem.* (U. S. S. R.), **6**, 577-87 (1933).—The experiments were carried out in silver-lined autoclaves of 0.15-0.80 l. capacity, heated in a thermostat with molten metal. The oxidation of red P can be explained by the following reactions: (1) $P_4 + 6H_2O = 2H_3PO_3 + 2PH_3$; (2) $P_4 + 8H_2O = 2H_3PO_4 + 2PH_3 + 2H_2$; (3) $P_4 + 12H_2O = 4H_3PO_3 + 6H_2$; (4) $P_4 + 16H_2O = 4H_3PO_4 + 10H_2$; while the intermediate products may act: (5) $H_3PO_3 + H_2O = H_2HPO_3 + H_2$; (6) $4H_3PO_3 = 3H_4P_2O_6 + PH_3$; (7) $PH_3 + 3H_2O = H_3PO_3 + 3H_2$; (8) $PH_3 + 4H_2O = H_3PO_4 + 4H_2$. The process is divided into two stages. In the first stage the P is dissolved according to (1) to (4) and in the second the intermediate products are oxidized according to (5) to (8). An almost complete conversion of P can be obtained by heating to 400° without a catalyst. In the presence of 1% NiO the reaction is completed in 4 min. at 280° and the liquid phase contains 20-25% of P as H_2HPO_3 . The catalyst affects only the first stage of the reaction. Max. yields were obtained when the ratio of $H_2O:P$ was 3:1. The partial pressure of H_2 has no apparent effect on the velocity of the reaction within a range of 100-350 atm.

A. A. Novikhtin

A. A. Henschel

CA

6

Oxidation of yellow phosphorus with water at elevated temperatures and pressures. I. N. Bushmakina, M. V. Kuznetsov and A. V. Frost. *J. Applied Chem. (U.S.S.R.)* 6, 544-556 (1933).—The oxidation of the yellow P proceeds at the same velocity as that of the red P. With yellow P the H_2PO_4 is more nearly pure, but the H_2 is contaminated with PH_3 and P vapors. Atomized P and H_2O are pumped into the reaction vessel. To avoid the formation of red P the nozzle is protected from excessive heating and should therefore be attached as deep as possible in the reaction cylinder or the P feed line must be cooled. The catalyst is admitted separately in the form of a cold concd. soln. The reaction vessel is equipped with partitions for retarding the passage of the reaction mixt. through the cylinder and for the sepn. of the freshly admitted products from those which were already exposed to the reaction. The newly introduced emulsion should be brought into contact with the smallest possible amount of liquid. The cylinder should be heated in stages. The empty app. must be preheated to 325° and the reaction should then proceed without any additional input of heat. A proper heat transfer from the reacting to the freshly introduced substances should be realized, and therefore the cylinder should be of a proper heat capacity. Large quantities of H_2O should be admitted in case of a too vigorous reaction. The highest yields are attained if the operation is almost entirely in the liquid phase. A. A. Bochtling.

ASAC METALLURGICAL LITERATURE CLASSIFICATION

BE RY: AKO

PROCEDURE AND PROPERTIES INDEX

180 AND 17TH CODES

B-I-3

Equilibrium between liquid and gas phases at high temperatures and pressures. III. Critical temperatures and pressures of petroleum products and of their mixtures with gases. M. V. RYKOV and A. P. RYKOV (Chim. Tverd. Topl., 1937, 8, 1123-1127).—The crit. temp. and pressures of various petroleum products are determined and the apparatus used is described. The crit. temp. varies with the gas: liquid phase vol. ratio, rising as this ratio is increased. The crit. temp. of C_6H_6 and C_6H_{12} in presence of H_2 and CH_4 , and of petrol and petrol-kerosene-gas oil mixtures in presence of H_2 , fall with increasing pressure. A method for determining the crit. temp. of heavy petroleum products which tend to crack is suggested. D. G.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

180M STYBZIVH

180M BOWIV

180M STYBZIVH

180M BOWIV

TEST AND TENSILE PROPERTIES																									
TENSILE PROPERTIES													COMPRESSION PROPERTIES												
TENSILE PROPERTIES													COMPRESSION PROPERTIES												
CA																									
22																									
Electric dehydrator for petroleum and its products. I. S. Polyakov, M. V. Rysakov, N. P. Sosnovskii, S. O. Bukhman, V. G. Puchkov, and L. P. Loshkin. U.S.S.R. ✓ 68,794, June 30, 1917. M. Hosh																									
ASME-SLA METALLURGICAL LITERATURE CLASSIFICATION																									
STONE NUMBER																									
STONE NUMBER																									

DRUZHININA, A.V.; RYSAKOV, M.V.; GOL'DSHTEYN, D.L.; NIKOLAYEVA, V.G.;
MYACHINA, N.S.; RUGOV, S.P.

Production low pour-point motor and industrial oils from different
crudes by means of hydrogenation and carbanide dewaxing methods.

Trudy VNII NP no.7:166-180 '58. (MIRA 12:10)
(Petroleum--Refining) (Lubrication and lubricants)

GOL'DSHTEYN, D.L.; RYSAKOV, M.V.; SKRIPNIK, Z.M.; ROGOV, S.P.

Production of transformer and turbine oils by hydrogenation of
sulfur-bearing petroleum products. Trudy VNII NP no.7:245-253
'58. (MIRA 12:10)

(Petroleum products) (Hydrogenation)

SOV/65-58-1046/15

AUTHORS: Rogov, S. P; Rysakov, M. V. and Fersht, I. Ya.

TITLE: Regeneration of Hydrogenation Catalysts with Hydrogen
(Regeneratsiya gidriruyushchikh katalizatorov vodorodom)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 10,
pp 29 - 33 (USSR)

ABSTRACT: During the hydrogenation of crude petroleum, coke is deposited on the catalyst. Coke formation is most intensive during the first stage when the fresh catalyst is used; it then slows down and in some cases disappears almost completely. The curve in Fig.1 shows the rate of coke formation on the hydrogenation catalyst. Coke formation is slowed down when the partial pressure of hydrogen is lowered, or when the contact time of the raw material with the catalyst is decreased. Catalytic processes for the manufacture of motor oils from petroleum, in the presence of hydrogen, are generally carried out at temperatures of 375° to 500°C. Coke which is deposited on the catalyst is not completely pure carbon, but hydrocarbons which are hydrogenated somewhat easier than the pure carbon. Tests showed that the catalysts can be regenerated by using hydrogen. Oxide catalysts, prepared either from aluminium silicates or aluminium

Card 1/3

SOV/65-58-10-6/15

Regeneration of Hydrogenation Catalysts with Hydrogen

oxides, were tested. Coking of these catalysts occurred during the processing of heavy sulphur-distillate fractions at 450°C and at low partial hydrogen pressure, or in the absence of hydrogen. In some cases catalyst samples were tested which had been used during the processing of heavy raw materials at high hydrogen pressure. They were regenerated in a hydrogen current in a continuous high pressure plant at temperatures of 400 to 475°C , and at pressures of hydrogen up to 300 atms (Fig. 2). The effect of the temperature on the rate of regeneration of the catalyst was also investigated. The temperature coefficient and activation energy at 450 to 475°C equalled $E_{\text{cal}} = 17,500$ and $K_t = 1.18$. The partial pressure of hydrogen influences inversely the rate of coke hydrogenation (Table 1). It was also observed that the rate of hydrogenation of coke is inversely proportional to the mixture of hydrogen and hydrocarbon gases during the treatment of the coked catalyst (Table 2). It was found that a catalyst used during 1100-hour destructive hydrogenation of the 320 to 450°C petroleum fraction at 450°C , at a pressure of 300 atms, contained 5.5%

Card 2/3

SOV/65-58-10-6/15

Regeneration of Hydrogenation Catalysts with Hydrogen

coke. This is approximately the same quantity as the amount of coke on the catalyst which was processed with a mixture of hydrogen and vapours of the 320 to 450°C fraction. The rate of hydrogenation is also inversely proportional to the temperature. Coke deposited during a high pressure process is hydrogenated considerably easier than coke formed at the same temperature, but in the absence of hydrogen. The method was tested under laboratory conditions during the destructive hydrogenation of heavy gas-oil fractions and satisfactory results were obtained. There are 2 Tables, 3 Figures and 11 References: 10 English and 1 German.

ASSOCIATION: VNII NP

Card 3/3

RYSAKOV, M.V.

FROST, Andrey Vladimirovich, prof. [deceased]. Prinimali uchastiye:
BUSHMAKIN, I.N.; VVEDENSKIY, A.A.; GRYAZNOV, V.M.; DEMENT'YEVA,
M.I.; DINTSES, A.I.; DOBROMRAVOV, R.K.; ZHARKOVA, V.R.; ZHERKO,
A.V.; IPAT'YEV, V.N.; KVIATKOVSKIY, D.A.; KOROBV, V.V.; MOOR,
V.G.; NEMTSOV, M.S.; RAKOVSKIY, A.V.; REMIZ, Ye.K.; RUDKOVSKIY,
D.M.; RYSAKOV, M.V.; SEREBRYAKOVA, Ye.K.; STEPUKHOVICH, A.D.;
STRIGALEVA, N.V.; TATEVSKIY, V.M.; TILICHEYEV, M.D.; TRIFEL',
A.G.; FROST, O.I.; SHILIYAYEVA, L.V.; SHCHEKIN, V.V.; DOLGOPOLOV,
N.N., sostavitel'; GERASIMOV, Ya.I., otv.red.; SMIRNOVA, I.V., red.;
TOPCHIYEVA, K.V.; YASTREBOV, V.V., red.; KONDRASHKOVA, S.F., red.
izd-va; LAZAREVA, L.V., tekhn.red.

[Selected scientific works] Izbrannye nauchnye trudy. Moskva,
Izd-vo Mosk.univ., 1960. 512 p. (MIRA 13:5)

1. Chlen-korrespondent AN SSSR (for Gerasimov).
(Chemistry, Physical and theoretical)

S/081/61/000/011/029/040
B103/B202

AUTHORS: Levina, M. I., Mushenko, D. V., Rysakov, M. V.

TITLE: Catalytic hydrogenation of sulfurous gas oils of catalytic and thermal cracking for the production of a Diesel oil and a raw material for catalytic cracking

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 11, 1961, 481, abstract 11M178 (11M178). ("Tr. Vses. n.-i. in-t neftekhim. protsessov", vyp. 3, 1960, 178 - 182)

TEXT: It was found that by hydrogenating a mixture of two kinds of the gas oil of catalytic cracking and the Diesel oil (from Devonian petroleum) in the ratio 1 : 1 a high-quality summer Diesel oil can be obtained by means of a Co-Mo catalyst at 30 atmospheres excess pressure. When hydrogenating the gas oil fractions 200 - 350°C and 215 - 490°C of catalytic cracking and of the cracking residue (from the same petroleum) raw materials for catalytic cracking can be obtained at 50 - 100 atmospheres excess pressure whose properties are superior to those of raw materials obtained by direct distillation. [Abstracter's note: Complete trans-
lation.]
Card 1/1

30219

S/081/61/000/019/063/085

B117/B110

11.9100

AUTHORS: Druzhinina, A. V., Gol'dshteyn, D. L., Rysakov, M. V.

TITLE: Production of low-solidifying industrial oils and motor oils from various sulfuric raw materials by hydrogenation and deparaffination with carbamide

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 420, abstract 19M147 (Sb. "Khimiya sera- i azotorgan. soyedineniy, sodержashchikh v neft'yakh i nefte-produktakh", Ufa, v. 3, 1960, 377 - 387)

TEXT: It was found that industrial oils and motor oils can be produced by hydrogenation and deparaffination of primary and secondary distillates with carbamide (raw material: wide distillation fraction from Romashki petroleum at 320° - 460°C, gas oil fraction obtained by catalytic cracking of heavy distillation material of the same petroleum at 200 - 485°C, and a fraction obtained by catalytic cracking of masut at 200 - 500°C). The chemical-technological nature of the process is due to the action of hydrogen upon high-molecular substances containing sulfur, nitrogen, and

Card 1/2

30219

S/081/61/000/019/063/085
B117/B110

Production of low-solidifying...

oxygen in the distillates at high temperatures accompanied by their decomposition under the formation of low-molecular hydrocarbons, hydrogen sulfide, and other compounds. At the same time, unsaturated hydrocarbons are converted into saturated ones, the content of methane-naphthene hydrocarbons increases and that of tar and polycyclic aromatics is reduced. The content of high-quality oil components is not affected by hydrogenation. The deparaffination of hydrogenated distillates with carbamide is practically accompanied by a complete removal of largely normally structured paraffins. The solidifying point is thus considerably reduced. A diagram of oil production is given. [Abstracter's note: Complete translation.]

Card 2/2

S/065/60/000/007/004/008/XX
E194/E484

AUTHORS: Levina, M.I., Rysakov, M.V. and Tammik, M.E.

TITLE: Catalytic Hydrofining of Diesel Fuel Fractions

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, No. 7,
pp. 6-11

TEXT: Hydrofining is the best way of removing sulphur compounds from diesel fuel fractions. This article gives the results of an investigation of hydrofining of diesel fuel fractions on an aluminium-cobalt-molybdenum catalyst with various operating conditions. The initial characteristics of the diesel fuel used are given in Table 1. The hydrofining circulation system is illustrated schematically and is described and the operating conditions are stated. Experimental results of hydrofining diesel fuels under various conditions are given in Table 2. The data show that as the temperature is raised from 350 to 400°C, the degree of sulphur removal increases and at 400°C and a pressure of 15 atm, the degree of desulphurization is high. If the feed contains a high resin content the activity of the catalyst is reduced by the formation of coke on the catalyst. The catalyst can be regenerated by oxidizing the coke. A sample of catalyst was regenerated

Card 1/2

S/065/60/000/007/004/008/XX
E194/E484

Catalytic Hydrofining of Diesel Fuel Fractions

12 times and was still efficient afterwards. Data on the hydrofining of diesel fuel with a high resin content is given in Table 3. The results of balance tests given in Table 4 show that at a temperature of 400°C and a pressure of 15 atm, the yield of refined diesel fuel is 98%. Data on the analysis of circulating gas are given in Table 5. The results of hydrofining diesel fuel with technical hydrogen containing from 0.6 to 1.5% of carbon dioxide are given in Table 6, and it will be seen that this does not reduce the activity of the catalyst. Characteristics of hydrofined diesel fuel are given in Table 7; diesel fuel of the required properties was obtained from a devonian crude by hydrodesulphurizing at a temperature of 400°C and a pressure of 15 atm. A number of different catalysts were made up containing varying amounts of cobalt and molybdenum, the carrier used was aluminium oxide. The results of activity tests of the various catalysts are given in Table 8. It is found that catalyst containing 3.2% cobalt and 4.8% molybdenum is very active. There are 1 figure, 8 tables and 1 English reference.

ASSOCIATION: VNIINeftekhim

Card 2/2

S/065/61/000/004/003/011
E194/E284

AUTHORS: Rogov, S. P., Danilevich, A. F., Gol'dshteyn, D. L.,
Rysakov, M. V. and Agafonov, A. V.

TITLE: Hydrofining of Lubricating Oils

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1961⁶, No. 4,
pp. 23-27₁

TEXT: Hydrofining is under consideration as a replacement for earth treating in finishing of solvent raffinates. This article describes tests on the hydrofining of distillates (spindle oil and machine oil Type AC-5 (AS-5)) and residual de-waxed phenol raffinates of the Novokuybyshevsk NPZ. The hydrofining was carried out on a large laboratory pilot plant with gas circulation, finishing with steam stripping. A study was first made of the influence of pressure and it was concluded that the pressure of 40 atmospheres, the highest tried, was the best in respect of improving the viscosity index, reducing the coke number and sulphur content and improving the colour of the finished oils. The ratio of volumes of oil per hour to volume of catalyst ranged from 1 to 4. The influence of treatment temperature was then studied using Card 1/5

S/065/61/000/004/003/011
E194/E284

Hydrofining of Lubricating Oils

on the one hand an aluminium-cobalt-molybdenum catalyst and on the other an aluminium-molybdenum catalyst. These tests were made with machine oil Type AS-5 at a total pressure of 40 atm and a delivery rate by volume relative to catalyst of 3 l/hours and a gas circulation rate of 300 litres at n.t.p. per litre of feed at temperatures of 275, 300, 325 and 350°C. It was shown that increasing the temperature has much the same effect as decreasing the feed rate. As a rule increasing the temperature somewhat increases the pour point which rose from -18°C with a treatment temperature of 350°C. Tables are then given of the characteristics of hydrofined spindle (Table 3) and residual (Table 4) oils under optimum process conditions. Table 3 was obtained with an aluminium-molybdenum catalyst and Table 4 with aluminium-cobalt-molybdenum catalyst. ✓

Card 2/ 5

S/065/61/000/004/003/011
E194/E284

Hydrofining of Lubricating Oils

Table 3

	<u>Feed</u>	<u>Treated Oil</u>	
		<u>300°</u>	<u>325°</u>
Viscosity centistokes:			
at 50°C	19.03	18.74	18.25
at 100°C	4.87	4.80	4.77
Viscosity index	92.3	93.8	95.7
Pour point °C	-14	-13	-12
Flash point °C	190	200	198
Colour NPA	2.5	1.5	1.5
Sulphur content % weight	0.96	0.92	0.86
Coke No. % weight	0.03	0.02	0.01
Corrosivity Pinkevich gms/m ²	6.65	2.13	-
Yield % weight	100.0	99.4	99.1



Card 3/5

S/065/61/000/004/003/011
E194/E284

Hydrofining of Lubricating Oils

Table 4

	<u>Feed</u>	<u>Treated Oil</u>
Viscosity centistokes:		
at 50°C	159.35	153.87
at 100°C	20.98	20.80
Viscosity index	85.1	88.4
Pour point °C	-10	-8
Flash point °C	246	270
Colour NPA	6.5	3.5
Sulphur content % weight	1.03	0.81
Coke No. % weight	0.38	0.27
Yield % weight	100	99.1

The hydrogen consumption in treating the distillate oil was 0.13% weight and in treating the residual oil 0.15% weight. The results of hydrofining and earth finishing are then compared and it is
Card 4/5

S/065/61/000/004/003/011
E194/E284

Hydrofining of Lubricating Oils

shown that hydrofinishing gave the greater yield, about 2% on distillates and 4% on residual lubricants. The hydrofined oils have lower coke number but there is some loss in the viscosity and a slight increase in the pour point. Hydrofining has little influence on the chemical composition of the lubricants. The increase in viscosity index on hydrofining mainly results from newly formed paraffinic, naphthenic and light aromatic hydrocarbons. Preliminary technical and economic calculations show that hydrofinishing of lubricants is promising as a replacement for earth treatment. There is not much to choose between the performance of the two catalysts tested but the aluminium-molybdenum catalyst is cheaper. Full scale tests carried out at the Novokuybyshevsk NPZ confirmed the laboratory test results of the VNII NP. There are 6 tables and 2 non-Soviet references.

ASSOCIATION: VNII NP

Card 5/5

ACC NR: AP6032842

(A, N)

SOURCE CODE: UR/0065/66/000/010/0015/0018

AUTHOR: Pereshigina, I. Ya.; Agafonov, A. V.; Rysakov, M. V.; Osipov, L. N.; Rogov, S. P.

ORG: VNIINP

TITLE: Study of the fundamentals of hydrocracking of a heavy distillate with high sulfur content

SOURCE: Khimiya i tekhnologiya topliv, i masel, no. 10, 1966, 15-18

TOPIC TAGS: petroleum refinery product, petroleum refining gasoline, liquid fuel, diesel oil, desulfurization

ABSTRACT: A study of hydrocracking of high-sulfur vacuum distillate (2.16 wt % S, 0.1 wt % N, 0.9163 specific gravity, and containing 50% aromatics and 50% paraffins and naphthenes) over Co-Mo/alumina catalyst at 50-250 atm, 380-425°C, 0.5-6.0 hourly volume space velocity, and a hydrogen to feed volume ratio of 300-1500 was made. The object of the work was to define the optimal process condition for the greatest yield of low-sulfur diesel oil fraction. It was found that in the 600-1500 range of H₂:feed ratio, the H₂:feed ratio did not affect the hydrocracking process. It was also found that the optimal conditions leading to 30-45% yield of low-sulfur diesel oil and very low yields of gas and gasoline fraction are: 50 atm, 400-425°C, and 1-2 hourly volume space ve-

UDC: 665.534:665.521.4

Card 1/2

ACC NR: AP6032842

locity. Under these process conditions, the life of the catalyst was found to be at least three months. Orig. art. has: 3 figures, 3 tables.

SUB CODE: 07,21/ SUBM DATE: none

Card 2/2

RYSAKOV, van Mikhaylovich; RUDNEV, A.P., red.

[Providing for safe working conditions in industry]
Obespecheni'e bezopasnykh uslovii truda na proizvodstve.
Moskva, Izd-vo "Metallurgiya," 1964. 39 p.
(MIRA 17:7)

TERTERYAN, R.A.; DINTSES, A.I.; RYSAKOV, M.V.

Block copolymerization of ethylene with vinylacetylene.
Zhur. VKHO 8 no.5:589-591 '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut nefte-
pererabatyvayushchey promyshlennosti.

RYSAKOV, M.V.; AGAFONOV, A.V.; GOL'DSHTEYN, D.L.; OSIPOV, L.N.;
ROGOV, S.P.; KHAVKIN, V.A.

Hydrofining of diesel fuels with an important reduction in
hydrogen consumption. Khim. i tekhn. topl. i masel. 8 no.3:
7-11 Mr '63. (MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po perera-
botke nefiti i gazov i polucheniyu iskusstvennogo zhidkogo
topliva.

(Diesel fuels) (Petroleum—Refining)
(Hydrogen)

RYSAKOV, M.V.

AGAFANOV, A.V., RYSAKOV, M.V., GOLDSHTEYN, D.L., GUSEMKOVA, YE.A.,
ALFIMOVA, YE.A., POSHITNOV, V.N.,

Gewinnung von Motorenölen aus schwefelhaltigen Rohölen durch
Hydrierung.

Report to be submitted for the Symposium Lubricants and
Lubrication, Dresden, 27-30 June 1961

RYSAKOV, M.V.

14

RYSAKOV, M.V., GOLDSHTEYN, D.L., GUSENKOVA, YE.A., ALFINOVA, E.A.,
BOROVAYA, M.S., PUCHKOV, N.G., KAZANSKIY, V.L., BADYSHTOVA, K.M.,
ROGACHEVA, I.M., CHESNOKOV, A.A., DENISENKO, K.K., ALTSHULER, A.G.,
GERASIMENKO, N.M., YASTREBOVA, G.I., ZHADANOVSKIY, N.B.

Production of High-grade petroleum oils and waxes by hydrogenation.

Report to be submitted for the Sixth World Petroleum Congress,
Frankfurt, 16-26 June 63

S/065/63/000/003/001/006
E075/E436

AUTHORS: Rysakov, M.V., Agafonov, A.V., Gol'dshteyn, D.L.,
Osipov, L.N., Rogov, S.P., Khavkin, V.A.

TITLE: Hydrofining of diesel fuels with a considerable
reduction of hydrogen consumption

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.3, 1963, 7-11

TEXT: In an attempt to refine sulphurous diesel fuels with a reduced quantity of hydrogen, a method was developed with the use of internal H₂ (autofining) as well as external H₂. It was applied to a 1:1 mixture of diesel fuel fractions from Arlan crude and catalytic gas oil from Romashkino crude. The method gave the optimum results at 30 kg/cm² and 400°C. Lowering the pressure to 22 kg/cm² does not affect the H₂ consumption. Increase of temperature to 420-440°C, although decreasing the H₂ consumption, may shorten the catalyst life (alumino-cobaltomolybdate). At 400°C and 30 kg/cm² the content of aromatics decreases to 16.3% from 21.6% with a simultaneous increase in the amount of naphthene-paraffins. The catalyst was used without losing its activity for 400 hours at a space velocity of 2.0 h⁻¹, temperature 400°C, pressure 30 kg/cm² and H₂ circulation of 300 m³/m³. The
Card 1/2

Hydrofining of diesel ...

S/065/63/000/003/001/006
EO75/E436

consumption of H_2 was 0.2 to 0.3 wt.% of the diesel fuel.
The refined fuel contained 0.12 to 0.13% S (originally 1.62%).
There are 4 tables.

ASSOCIATION: VNII NP

Card 2/2

RYSAKOV, N

F
FEATURES OF GRATE-TYPE ASH SEPARATORS. Rysakov, N. and Vilenskaya, R. (Za
Ekonom. Topliva (Fuel Econ.), June 1961, 17-22). Operating data and plans
showing the main features of a grate type ash separating unit, as designed
for use in the boiler plant of Soviet Power stations, are presented. (L)

ASH-SEA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

3829. EXPERIENCE IN OPERATING PULVERISING PLANT WITH "ATRITA" PULVERISERS ON KIZEL COAL. Rysakov, N.F., Cherenikhin, K.V. and Koslov, A.V. (In Ekonomiya Topliva (Fuel Econ.), 1949, (7), 11-15). (L).

ASB-SLA DETAILING LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

RYSAKOV, N. F.

Jun 50

USSR/Electricity - Boilers

"Two-Stage Evaporation and Steam Separation in a TKP-3 Type Boiler," O. L. Del'va,
N. F. Rysakov, Engineers

"Elek Stants" No 6, pp 48-50

Describes experiments which prove it practical to convert TKP-3 type boiler to two-stage evaporation system. Reconstructed boiler can be operated at maximum load of 190/200 tons/hr, with boiler water salt content of 4,500 mg/l. Diagrams and graphs show operating characteristics of boiler at maximum and normal loads.

PA 162T7

Chem H

21

Combating slagging in unit-type-mill combustion chambers when using Chelyabinsk coal. N. F. Rysakov and A. V. Korlov. *Za Eksp. Topliva* 8, No. 2, 14-17 (1951).— This coal has a low-melting ash. Suggestions are made for avoiding slagging when it is used. M. Hovch

1951